

Evaluation of the Nutrition and Health Behavior of People Recovered from COVID19 and Treated at Home among the Arab Population

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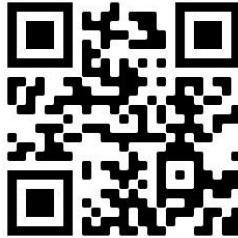
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تقييم السلوك الغذائي والصحي للأشخاص العرب المتعافين من كوفيد 19 والمعالجين في المنزل

د. منى سعيد محمد القطري

قسم الاقتصاد المنزلي - كلية التربية النوعية - جامعه عين شمس - ج . م . ع

ملخص البحث

فيروس كورونا المستجد / كوفيد 19 هو وباء بدأ في ديسمبر 2019 في الصين وانتشر ليشمل جميع أنحاء العالم حتى الآن. **الهدف:** يركز استبيان تقييم السلوك الغذائي والصحي موضع الدراسة على المريض المصاب بـ كوفيد 19 والذي تم علاجه منزلياً . تم تصميم استبيان (NHBQ - COVID19) على شبك الانترنت . **الطرق :** استجاب خمسمائة ست وسبعون فرد لاستبيان ، تراوحت أعمارهم بين 16 و 75 عاماً. **النتائج:** الشريحة الأكبر في العمر (30-39 سنة) كانت بنسبة (46.8%) والنسبة الأقل كانت أكبر من 60 سنة بنسبة (2.7%). بالنسبة للأمراض المزمنة المنتشرة بين المتعافين ، وتبين أن 60.6% من الأشخاص ليس لديهم أمراض مزمنة و 9.8% يعانون من السمنة. أظهرت النتائج ارتفاع نسبة الأشخاص الذين استخدموا بروتوكول منظمة الصحة العالمية (خافض للحرارة + فيتامين سي + فيتامين هـ + زنك + مضاد حيوي) (48.7%) ، وأشارت أيضاً ان هناك (15%) من الأشخاص الذين لم يستخدموا أي علاج طبي. وبخصوص تأثير مؤشر كتلة الجسم على مدة التعافي ، فإن النسبة العالية من الأشخاص المتعافون لديهم وزن طبيعي (36.9%) ، توجد فروق ذات دلالة إحصائية في معدل مدة الشفاء عند ($p \leq 0.01$) بين الأفراد الذين استخدموا الليمون والشاي الأخضر والبابونج والزعرور والقرنفل والفواكه الطازجة والخضروات الطازجة. إضافة إلى ذلك ووجدت فروق ذات دلالة إحصائية عند ($p \leq 0.05$) في وقت التعافي واستخدام القسط الهندي والكرم والحلبة والشاي الأسود. **التوصيات :** ينصح الأفراد بالاعتناء بالصحة والنظام الغذائي ودعمه بالعديد من الفاكهة الطازجة والخضروات والأعشاب (الليمون والشاي الأخضر والأسود والبابونج والزعرور والقرنفل والقسط الهندي والكرم والحلبة).

الكلمات المفتاحية: كوفيد 19، أعشاب، السلوك الغذائي، المكملات الغذائية.

Evaluation of the Nutrition and Health Behavior of People Recovered from COVID19 and Treated at Home among the Arab Population

Dr.Mona S. El Kutry

ABSTRACT:

A new corona viral /COVID19 is an epidemic that started in December 2019 in China and expanded to all world so still now. Objective: Our study focuses on the patients infected with COVID 19 and treated in their homes. “Nutritional & Health Behavior during” COVID19 (NHBQ -COVID19) the design place by using a web-survey. **Methods:** 576 respondents have been inclusive in the study, aged ranged 16 -75 years. **Results:** The bigger slice in age (30-39 y) was (46.8%) and the least slice was in over 60 y (2.7%). The chronic diseases were distributed for people recovery shows that 60.6 % of persons don't have any chronic diseases, 9.8% have obesity. The results show a high percentage of people used WHO protocol (Antipyretic+ VitC+VitE+Zinc+Antibiotic) (48.7%), as well as (15%) of people who did not use any medical treatment. For the effect BMI on-time recovery rate that the high percentage of recovered people have a normal weight (36.9%). There are significant differences in the rate of time recovery at ($p \leq 0.01$) among individuals who used lemon, green tea, chamomile, thyme, clove, fresh fruit, and fresh vegetables. Besides, significant differences at ($p \leq 0.05$) in time recovery and used costus, turmeric, fenugreek, and black tea. **Conclusions:** Therefore individuals take care of health, diet, and supported it with many fresh fruits, vegetables, and herbs (recommended lemon, green & black tea, chamomile, thyme, clove, costa, turmeric, and fenugreek).

Key words: COVID19, Herbs, Nutrition behavior, Nutritional supplements.

Introduction

A new corona viral /COVID19 is an epidemic that started in December 2019 in China and expanded to all world still now. It caused acute respiratory syndrome in humans and many syndromes in blood, lung, gastrointestinal, and senses. According to world meters (**Worldometers 2020**). On the 8th of August 2020, the number of COVID19 deaths was 728,533 cases, as well as the number of COVID19, assured cases was 19,783,575 in the world. Many reasons were caused by expanded COVID19. The opening flying between countries especially from China, doesn't take procedures about safety from many counties, and refrain from wearing a mask (**ICNARC, 2020**).

Our study focuses on the patients infected with COVID 19 and treatment at their home. There are two main influences: remain at home for the mild syndrome and the number of beds available in the near hospital. The patients take the protocol treatment of WHO concerned in their countries. A lot of them were practiced the nutrition behavior and recipes to support their immunity. Maintaining a proper nutritional status is critical especially in a time when the immune system ability needs to fight back. Individuals with sharp morbid obesity ($BMI \geq 40 \text{ kg/m}^2$) were one of the groups with a high risk for COVID19 complications (**CDC, 2020**). Symptoms of COVID 19 are developers and forked, may to appear from two to 14 days after exposure this time is called the incubation stage. Public symptoms can involve, high temperature, tiredness, cough, and loss of a taste or smell or both. Other signs can include muscle aches, chest pain, sore throat, runny nose, headache, nausea, vomiting, diarrhea, and, rash. The severity of COVID 19 symptoms is able to range from very mild to serious. An older person has a higher risk of dangerous illness from COVID19, and the risk increases with age and chronic diseases: like a heart attack, cancer, coronary artery disease, chronic, obstructive pulmonary disease, weakened immune system, type 2 diabetes, and chronic kidney disease (**Alfredo, 2020 & De, et al., 2020**).

Currently, no therapy is recommended to treat COVID19. The U.S. National Institutes of Health lately recommended the corticosteroid dexamethasone for people with sharp COVID19 that need supplemental oxygen or mechanical ventilation. The FDA had granted an emergency use license for the antiviral drug Remdesivir to treat severity of COVID19 (FDA, 2020).

Many studies reported that nutritional supplement, and herbs may support the immunity system as well as decrease a lot of symptoms of COVID19. Fowler *et al.*, 2014 recommended that vitamin C decreased the pro-inflammatory signs in patients who received vitamin C 200 mg/kg per day compared with patients who received placebo. Marik *et al.*, 2017 & Kim *et al.*, 2018 reported the integration, of vitamin C, thiamine, as well as hydrocortisone have beneficial effects in patients with severe pneumonia. Kashiouris *et al.*, 2020 investigated that newly, vitamin C has been featured as a potential curative agent to treat sepsis. It is deficient in septic patient. Its physiologic function in sepsis involves break oxidative stress, inflammation, beneficence vasopressor synthesis, bromate immune cell function, ameliorative endovascular function, as well as epigenetic immunologic modifications. Diëtheek,2020 & Darling *et al.*,2020 illustrated that the vitamins A,D,E are important to immunity and reduces the symptom and multiples of COVID19 .

In light of the above, the “Nutritional &Health Behavior during COVID19 (NHBQ -COVID19)” infection showed the design start via using a web-survey. The main target of the paper is to explore and analyze the changes in eating behavior and commitment to the WHO treatment protocol and lifestyle for infected people (from started the symptoms to recovery among the Arab population).

Subjects and Methods

Survey methodology

The researcher uses a web-survey to take out data, from every Arab country follower the hash tag # COVID19; Coronavirus; Recovery of COVID19, and experimental with Coronavirus in the Arabic language around people eating and health behavior within the COVID19 pandemic. The survey was brought about from the 11th of July to the 11th August of 2020, among the Arab population, by using an online platform, any device can connect with it. The survey was spread among groups and private social networks (Twitter, Facebook, Instagram, Whatsapp), and institutional mailing lists. Furthermore, the latest data informed by Global No.1 Business Data Platform (**Global No.1 Business Data Platform (2020)**). Above 2.7 billion monthly effective users as of the second quarter of 2020, Facebook is the biggest social web worldwide, 2.0 billion ofWhatsapps, and 1.082 billion of an Instagram, 0.326 billion of twitter active users in July 2020. The nutrition and health behavior questionnaire “NHBQ-COVID19 “was specifically built by using Google form.

The questionnaire inclusive 34 questions divided to four different sections: (1) personal data (5questions: age, gender, nationality, stay based, and present employment—particularly if they had work in a medical field); (2) anthropometrics information (2 questions: informed weight and height); (3) nutritional behavior information:20 items (fresh vegetables, fruits, soup, hot drink, fresh Juices, honey, herbs they consumed per repeat daily during the illness, and herbs that were used);(4) health information : 7 items (1-time recover from corona 2-chronic diseases” 3-methods used to sure infected with the coronavirus 4- ways to get infected 5- duration of illness 6- medical treatment & supplements “ minerals and vitamins “ as 10 component “ that used during infected 7 -method following your medical condition). The whole version of the NHBQ-COVID19 is available online: (<https://docs.google.com/forms/d/1aclv1sbaP->

[jnYXODPkgO3dXMzvdOD_zjQuefah0IzUw/edit](https://doi.org/10.21608/jnYXODPkgO3dXMzvdOD_zjQuefah0IzUw/edit)). The research was carried in total agreement with the national, international regulations, as well as the Declaration of Helsinki (WHO,2020). Informed about the research requirements and were desired to admit the data sharing previously participating in the study.

Subjects:

Target one month from share the questioners on social media in many fields in all Arab nationalities. Participants carried out the questionnaire directly connected to the Google platform. Therefore, each NHBQ-COVID19 was transmitted to the Google platform while the final database had downloaded as a Microsoft Excel sheet.

Statistical analysis

Information was represented as number and percentage in parentheses (%) into categorical variables, for continuous variables. Evaluate the data distribution normality by Kolmogorov-Smirnov and Shapiro-Wilk tests. All the variables had a lean distribution. Then, did the test of homogeneous. Therefore, the scale of the questionnaire for variables was examined with Cronbach's Alpha, equal 0.87. It's a very good number. The Spearman correlation coefficient had calculated to estimate the correlation between continuous nonparametric variables. Chi-square test was utilized to estimate the association among categorical variables however McNeman analysis was applied to explore the difference between categorical variables. Chose Jonhear-tertptra test and Kruskal–Wallis analysis were perfected to compare continuous variables through two or more variables, respectively. In addition, binary and multinomial logistic regression tests were made to investigate the association between categorical variables. Statistical analysis was completed using (SPSS (2016).

Results

1-Demographic of participants in questionnaire

In the 11th for August 2020, the NHBQ-COVID 19 was completed, and information collected to be where analyzed. A total of 600 persons completed the NHBQ-COVID19, as well as, after validation of the information, 576 respondents have been inclusive in the study, aged ranged in 16 -75 years. The bigger slice in age (30-39 y) was (46.8%) and the least slice was in over 60 y (2.7%) Figure (1). The gender of participants was 285(49.2%) males, 291(50.3%) of females.

People were responded to the NHBQ -COVID19, from the multi-nationality of Arab countries. the percentage of them, were (45.8 % Saudi Arabia, 33.9 %Egypt, 8.7% Iraq, 3.6% Yemen, 3.3% Oman,2.6% Jazzier,2.1% Jordan).Figure(2) showed that the people recovers from COVID19 have work in many fields, the fewer percentage workers in medicine (9.9%), as well as 20.8% in administration,30.7% don't work, and the high percentage (38.5%) in other fields.

2- The Questionnaire Axis for health behavior represent in figures (3,4,5,6,7) .

Our results indicated that the participants infected with COVID19 through many methods the high percentage was (41.1 %) for contact with the infected cases, also (34.0%) don't know how are they infected.(Figure3) .

Many methods are assured to diagnose the infection with COVID19. Figure (4) reported that about 225 cases (39.1%) of participants did PCR test, 89 cases (15.5%) diagnose according to X-rays and medical diagnoses,48 cases (8.3%) through blood analysis plus symptoms,127 cases (22%) absence of a sense or smell , taste plus others symptoms, fewer cases 87 (15.1 %) suffer and diagnosed with high temperatures plus many symptoms.

Concerning the chronic diseases among the recovered people and responded to the NHBQ-COVID19 represented in Figure (5) shows that 60.6 % of persons don't have any chronic diseases, 9.8% have obesity, and 8.4 % suffer from sensitivity. About 7.4 % of participates suffer from another disease did not show in the list, thyroid, diabetic, and high blood pressure were found in percentage with 6.2%, 2.4% ,and 2.1 % , respectively. People used medical treatment during infection with COVID19 reported in Fig. (6) the results show the high percentage of people used "WHO protocol" "WHO Pro." (Antipyretic + VitC+VitE+Zinc+ Antibiotic) (48.7%), as well as (15%) of people who did not use any medical treatment, (10.9%) of them use Antipyretic only,(13.5 %) treated with Antipyretic+ VitC+VitE+Zinc. The least percentage (4.1; 3.6; 3.6 %) used VitC+ Zinc, Zinc only, and (WHO Pro.) + Anti-Clotting + Cortisone, respectively.

Fig.(7) shows participate answers to (How to follow up your cases?). The responses show the high percentage of recovered people 33.85% calling to doctor. As regards the persons who did not follow their health with any person was high percentage 32.4% of recovered people. As well as less percentage were 7.29 % of recovered people did analysis & rays weekly.

3- The Questionnaire Axis for nutrition behavior represent in figures (8,9,10) & tables (1,2,3)

BMI according to the gender represented in Fig. (8) results show that the high percentage of recovered people have a normal weight (20.8 & 16.1%) for males and females, respectively. As regard (the obesity $\geq 30-40$) percentage were in 14.6 % in males, 13 % in females. As regards the high obesity (≥ 40) was in less percentage in the recovered people, so showed 1% between males and 3.6% between females. Table (1) represented the relationship between the time recoveries during COVID 19 and (chronic diseases, medical treatment, BMI, and the methods of follow up cases for recovered participates. The data reported that there is a negative

correlation relationship at ($P < 0.001$) between chronic diseases, medical treatment, and the methods following up cases.

Furthermore, there is a relationship in positive correlation ($P < 0.01$) among medical treatment, BMI, and the methods of follow up cases. As well as, there is a correlation in the negative relationship at $P < 0.05$ between medical treatment, time recovered periods, and chronic diseases. As regard to BMI, there are strong positive correlation relationships at ($P < 0.01$) between medical treatment, and the methods of follow up cases. On the other hand, the methods follow up cases have strong positive relationships correlation at ($P < 0.01$) between medical treatment and BMI.

Therefore our research found the different significant ($P < 0.01$) in the time recovered rate for the persons who did not have chronic diseases and who have obesity. Besides, there was a significantly different ($P < 0.05$) in the time recovery rate for people who have diabetes and/or sensitivity, and immunity diseases.

As regards the type of medical treatment there did not found any significant difference in time recovery rate between people have taken treatment drug and others did not take medical treatment. But also, we found a significant difference ($P < 0.01$) between persons who have vitamins or zinc or antipyretic only and others treated with the WHO protocol.

Regarding, BMI indicated the time recovery has a significantly different ($P < 0.01$) between persons who have normal weight and others have obesity or high obesity. Our results appeared the methods diagnose the infection and the methods to follow up cases did not have a significant difference between them and did not affect on-time recovery.

The spearman correlation between the natural nutrients & herbs uses and on a time recovery period is presented on the table (2). The results indicated there is a relationship in negative correlation at ($P < 0.01$) among the time recovery, as well as having lemon, black tea, and juices. Also, there is a relationship in

negative correlation at $P < 0.05$ among the time recovery and eat garlic, black seeds, and fresh vegetables.

The impact of natural nutrients and herbs on a time recovery period are presented on the table (3) and Fig. (9,10). The Kruskal–Wallis test displays a statistically significant difference in the time recovery rates and using natural nutrients, herbs among the five periods of time recovery. We will review it as listed in the table (3), there are significant differences in time recovery rate at ($p \leq 0.01$) among individuals, who used lemon, green tea, chamomile, thyme, clove, fresh fruit, and fresh vegetables. Besides, significant differences at ($p \leq 0.05$) in time recovery and used costus, turmeric, fenugreek, and black tea. Finally, the responders of participated in many recipes of natural treatment appear that 18.7% of them have eaten boiled pear, 8.3% drink anise during the infected period, 48.2% used mixers of herbs daily (Fig.10).

Discussion

NHBQ -COVID19 study in present work provides a snapshot of the health and eating behavior for people recovered of COVID19 and treated at home, who participated in the survey between 11th July and 11th August of 2020. To our information, this research was among one of the first to discuss the direct effect on the time recovery COVID19 on health knowledge, practices, and eating behaviors during time recovery. Female respondents to NHBQ -COVID19 are more than male respondents. Although the infected percentage of males is bigger than females according to the WHO statically and the death rate in males were (4.7%) compared with (2.8%) in females (**Worldometers,2020**).

The work field does not have shown any effect on the infected percentage of respond persons to NHBQ -COVID19. According to the methods infected between individuals with COVID19 the participates indicated the (41.1 %) of them was contact with the infected case, that agree with the recommended that of

Levine,2020 & Ong,et al., 2020 who reported the droplet transmission exists when a human is in close connect (with in 1 m) to someone who has respiratory symptoms (e.g., sneezing or coughing) and is, subsequently on the risk of having mouth and nose or eyes exposed to potentially infective respiratory droplets. The carriage may also occur utilizing fomites in the immediate environment concerning the infected person. Subsequently, the transmission of the COVID19 virus can occur by direct or indirect contact with infected people or surfaces in the immediate environment or with objects used with in the infected person.

As regards the diagnosis methods through person participles in the questionnaire more than a third of them did PCR diagnoses that agree with **Padhi, et al.,2020** and **WHO,2020a** who reported the laboratory diagnosis of COVID 19 was based on nucleic acid amplification tests .Our results indicated that about (48.7%) of people used WHO protocol (Antipyretic+VitC+VitE+Zinc+Antipiyotic) as a treatment in home and the last used vitamins as supplements supported to his immune system as well as less percentage treated with WHO protocol + Anti-Clotting + Cortisone.

The impact of Vit.C on infected viral illustrated with many studies **Patel , et al., 2020** and **Kim, et al., 2020** reported the oral dosage vitamin C up to 6g per day can reduce the risk of many viral infections and helps to improve health conditions. Vitamin C is therapy in COVID 19 because it minimizes the effect of oxidative stress and cytokine and this promising role was also observed in 146 COVID 19 patients (**Li, 2018**). Moreover, it was proved that Zn may do inhibit virus replication through alteration of the proteolytic processing of replicase polyproteins , RNA-dependent RNA polymerase in rhinoviruses, HCV, as well as influenza virus, and reduced the RNA-synthesizing activity of nidoviruses, for which COVID19 belongs (**Kumar,2020**). For the effect of BMI on-time recovery rate that the high percentage of recovery people have a normal weight (36.9%). So, many studies assessed the association between persons with obesity and COVID19, which showed that persons with obesity significantly

are more susceptible to the risk of COVID19 (**Leung,et al., 2020 &Cho,et al.,2020 &Bello,et al., 2020**).

From years ago habited individuals to use natural treatment and herbs to cure many diseases. Our study reported that the effect of lemon juices on-time recovery of COVID19. Lemons contain different phytochemical substances, including terpenes as well as polyphenols. Essential oil as limonene, flavonoids, vitamin C, carotenoids, mucilages, calcium oxalates, citric, citrain, terpineol, camhenium, fellander. Pectin, sugar, citric acid, malic acid, and flavonoids are also abundant (**Rauf&Uddin, 2014**).

Ganesan, et al., 2020 said the lemon essential oils, geranium, and its derivative compounds were valuable natural anti-viral factors that may do contribute to the prohibition of the invasion of COVID19 into the human body. **Chandra,1992 & Muscogiuri et al. 2020** reported the anti-oxidants to raise the number of T-cell subsets, increases lymphocyte reaction to mitogen, enhance the productivity of interleukin-2, effective a natural killer cell activity, and raised response to influenza virus vaccine compared for placebo.

Besides the effect in time recovery of COVID19 according to responses individuals to drink green tea were, about 37.5 of them used it as a drink, also it has many powerful compounds. **Rajesh et al., 2020** reported the three polyphenols found in green tea can be used as possibility inhibitors against COVID 19 and are promising drug candidates for treatment. As regards chamomile is widely used for therapeutic purposes as well as 34.9 % of participates in NHBQ -COVID19 used it in drinks. It's having extracted antibacterial properties and is useful for the treatment of irritable bowel syndrome, stomachache, and insomnia. It has an anti-inflammatory and bactericidal. (**Miraj,Alesaeidi, 2016 & Albrecht,et al., 2014 &Son,et al., 2014**).

As regard thyme about of 35.9 % of participates used it in drinks that, contains essentials oil is well known the main compound is the thymol (36–55%) as well as p-cymene (15–

28%). The compound is recognized by strong bactericidal, fungal, and anti-parasitic properties, with comparatively low toxicity to humans and animals (Salehi,2019). Vimalanathan;Hudson, 2014 reported the essentials oil of thyme likewise displayed 100% inhibitory action in the liquid phase at 3.1 $\mu\text{L}/\text{mL}$ concentration versus the influenza virus (H1N1) with 30 min exposure. Therefore, clove about 38% of participates in NHBQ -COVID19 used it in drank / eat, it contains primary oil that possesses having anti-inflammatory, anesthetic, and cytotoxic, properties in addition to its confirmed antifungal, antimicrobial, antioxidant, and antiviral activities (Chaieb,2007). It contains eugenol inhibits cyclooxygenase and thus block prostaglandin H synthase (Thompson ,Eling,1989). Approximately, more than 80 % of participants of the survey have eaten fresh fruit and fresh vegetables daily. So its sources of vitamin C involved guava, red peppers, oranges, lemons, strawberries, broccoli, mangoes, other fruits, and vegetables. It is naturally good and contains vitamins and minerals that can help to keep you healthy. They can also help protect against some diseases(WHO&FAO,2004).

About 39.1 % of participating in the survey NHBQ -COVID19 has taken the costus, - *Saussurea costus* - It is proven to exhibit anti-inflammatory, ulcer, cancer, and hepatoprotective activities, lending support to the rationale behind several of its traditional uses (Pandey,*et al.*, 2006) . It may 24.7 % of individuals who participated in NHBQ -COVID19 used turmeric daily. Fatemeh *et al.*, 2020 reported that turmeric (*curcumin*) might have beneficial effects against COVID 19 infection through its ability to transfer the various molecular goals that contribute to the attachment and internalization of viral in many organs, including the kidney, cardiovascular system, and liver. Moreover, Khaerunnisa *et al.* 2020 indicated that the curcumin may do have the potential to inhibit the COVID19 contagion by molecular docking. Curcumin might also put down pulmonary edema as well fibrosis-associated pathways in COVID19 infection. Furthermore, turmeric reduces the infiltration of immune cells, the adhesion molecules, and pro-inflammatory mediators at vascular cells (Sun,*et al.*, 2017) . Besides, Manoharan *et al.*, 2020 said

nutritional supplements of turmeric, with vitamin C and zinc, have to show promising results in boosting the natural immunity and protective defense against the COVID19 infections that have been known in many hospitalized patients supported in the Indian setting.

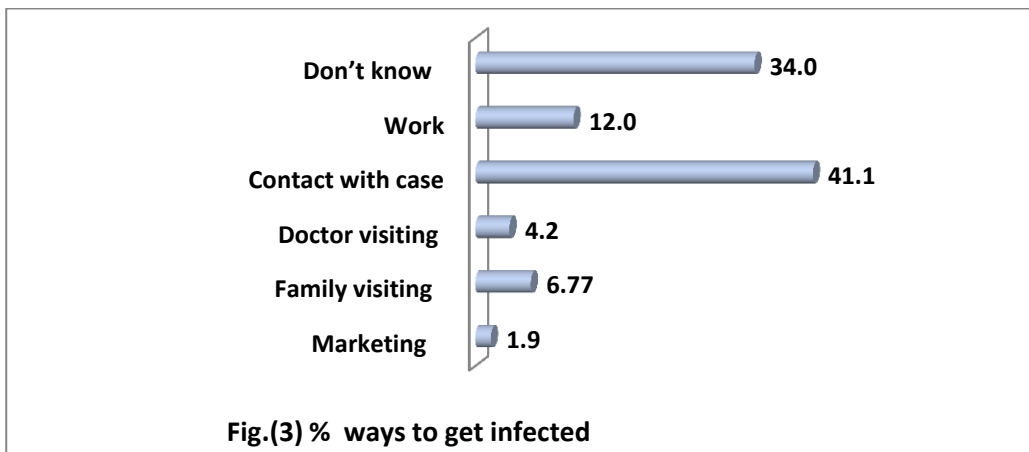
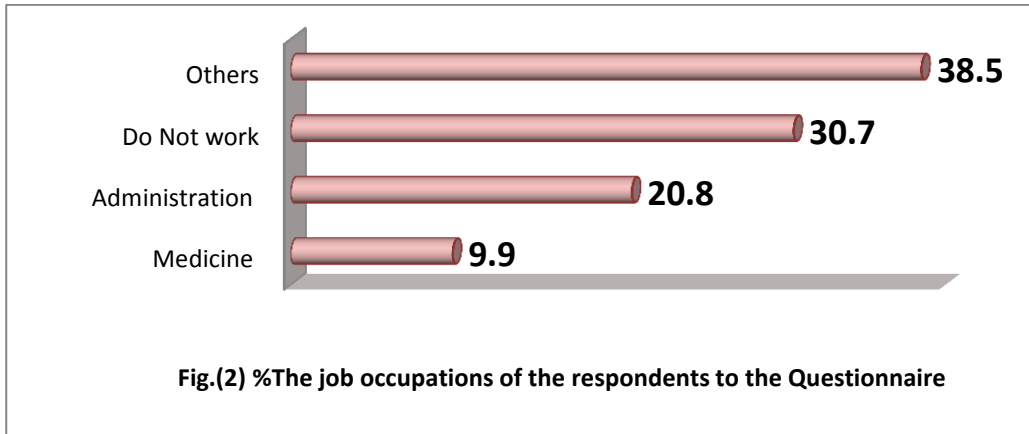
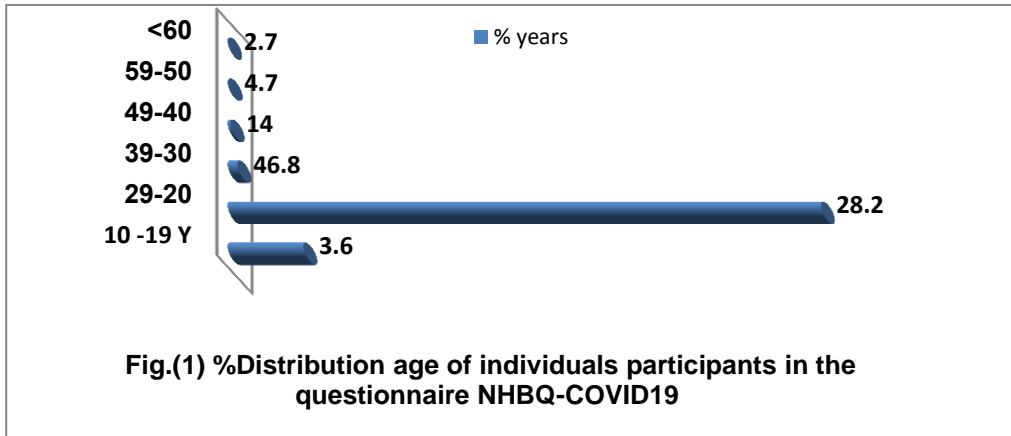
On the other hand, about 29.2 % of persons who participated in NHBQ -COVID19 used fenugreek daily. So fenugreek has therapeutic effects, it contains the highest percentage of saponin (4.63 g/100 g) and protein (43.8 g/100 g) content, whereas polyphenols (103.8 mg of gallic acid equivalent/g), in the husk and whole dietary fiber (77.1 g/100 g), and 56% antioxidant activity (Madhave, *et al.*, 2011). The seeds have good concentrations of phosphorus, sulfur, calcium, iron, and zinc; the seeds buds have cyanocobalamin, pyridoxine, calcium, biotin, pantothenate, and vitamin C. As well as the extract of fenugreek seed reduces lipid peroxidation and hemolysis in RBC. (Kaviarasan, *et al.*, 2004, & Parthasarathy, *et al.*, 2008).

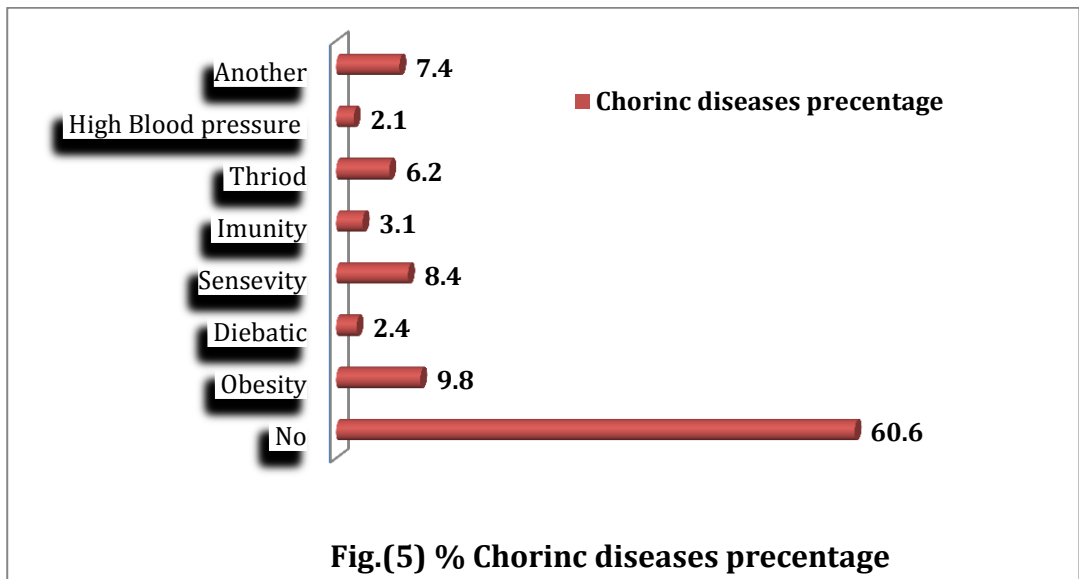
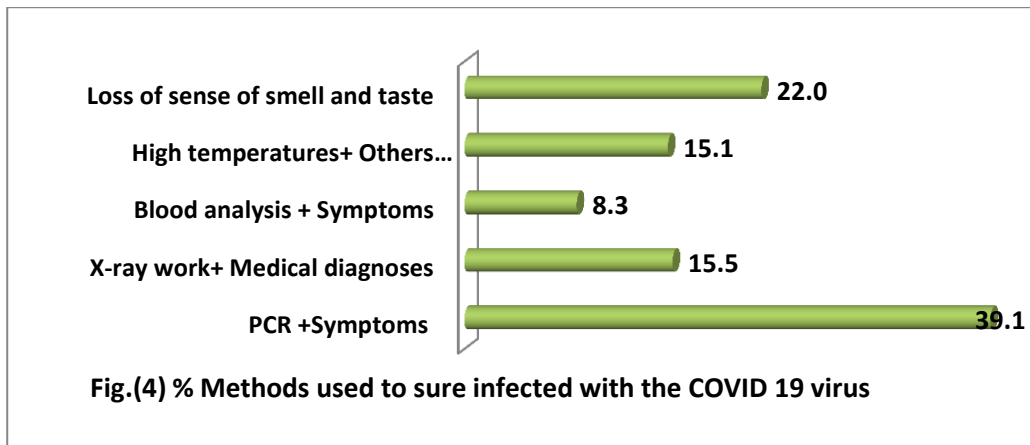
Conclusion

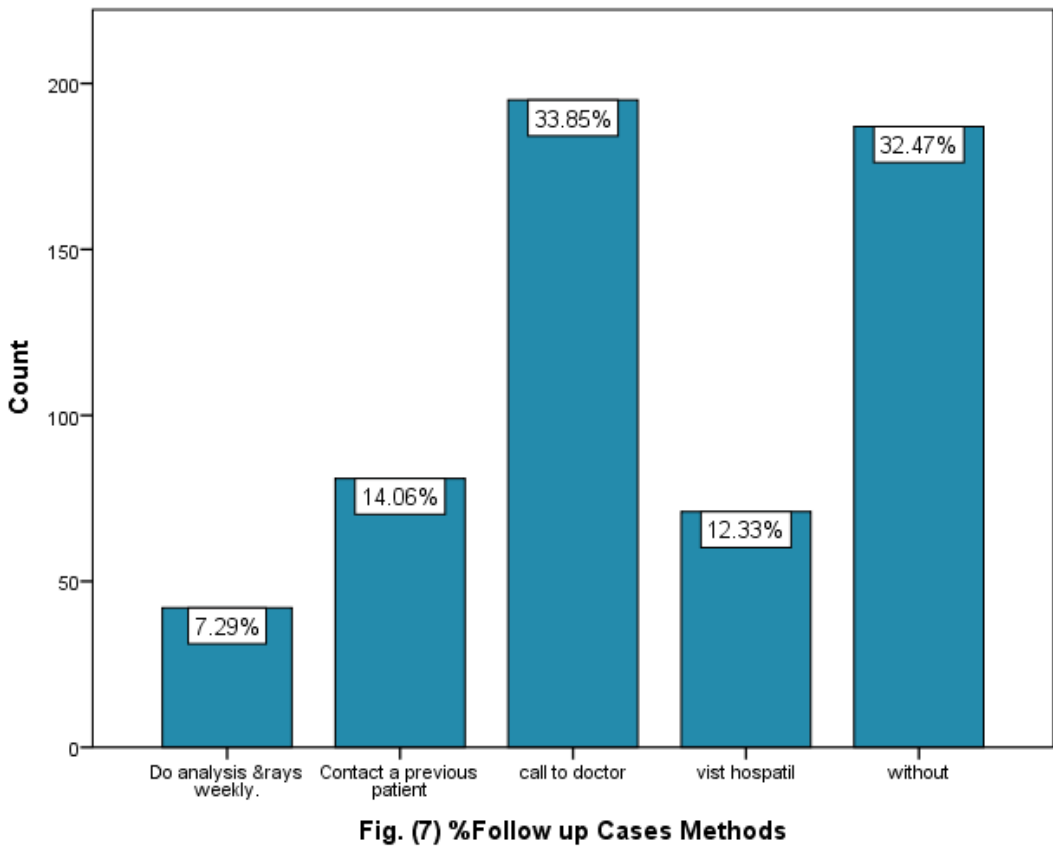
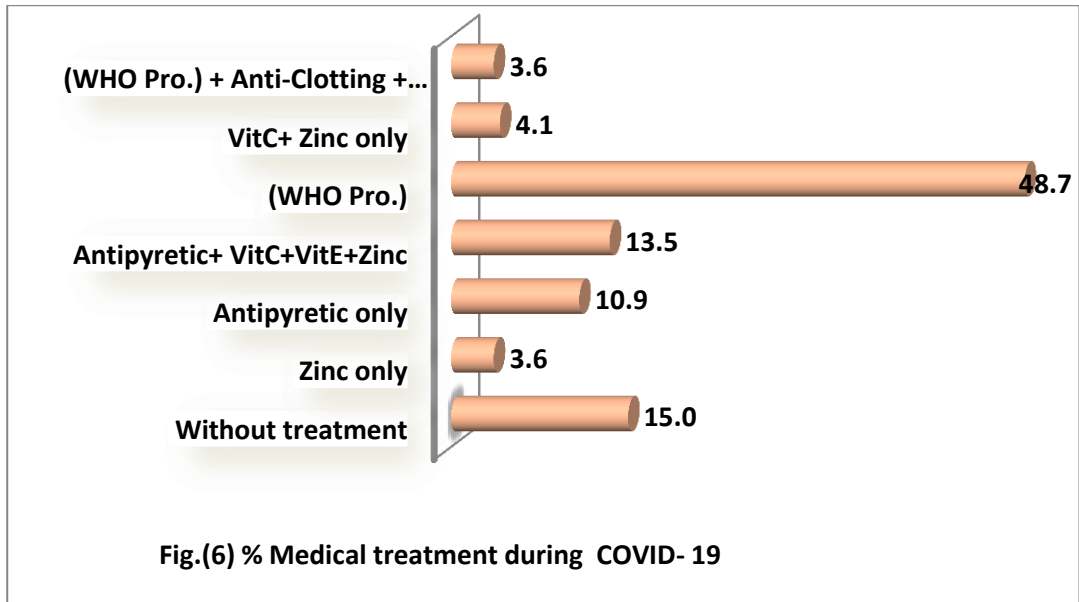
The timing recovery of COVID19 depended on many factors immunity, age, nutritional and healthy status. Therefore, our research recommended that infected COVID19 individuals take care of health, diet, and supported it with much fresh fruit, vegetables, and herbs (lemon, green & black tea, chamomile, thyme, clove, costus, turmeric, fenugreek). Also, there was a negative relationship correlation between time recovery, and having lemon, black tea, juices, garlic black seeds, and fresh vegetables).

Acknowledgements

I would like to thank every person who responded to my questionnaire and special thanks to every individual helped and supported any sick people had COVID 19.







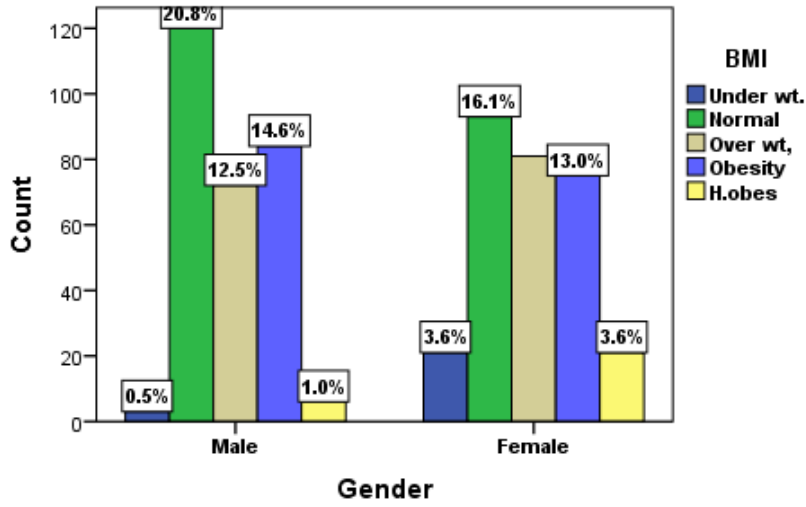


Fig.(8) % Distribution of BMI according gender in COVID19 recovery.

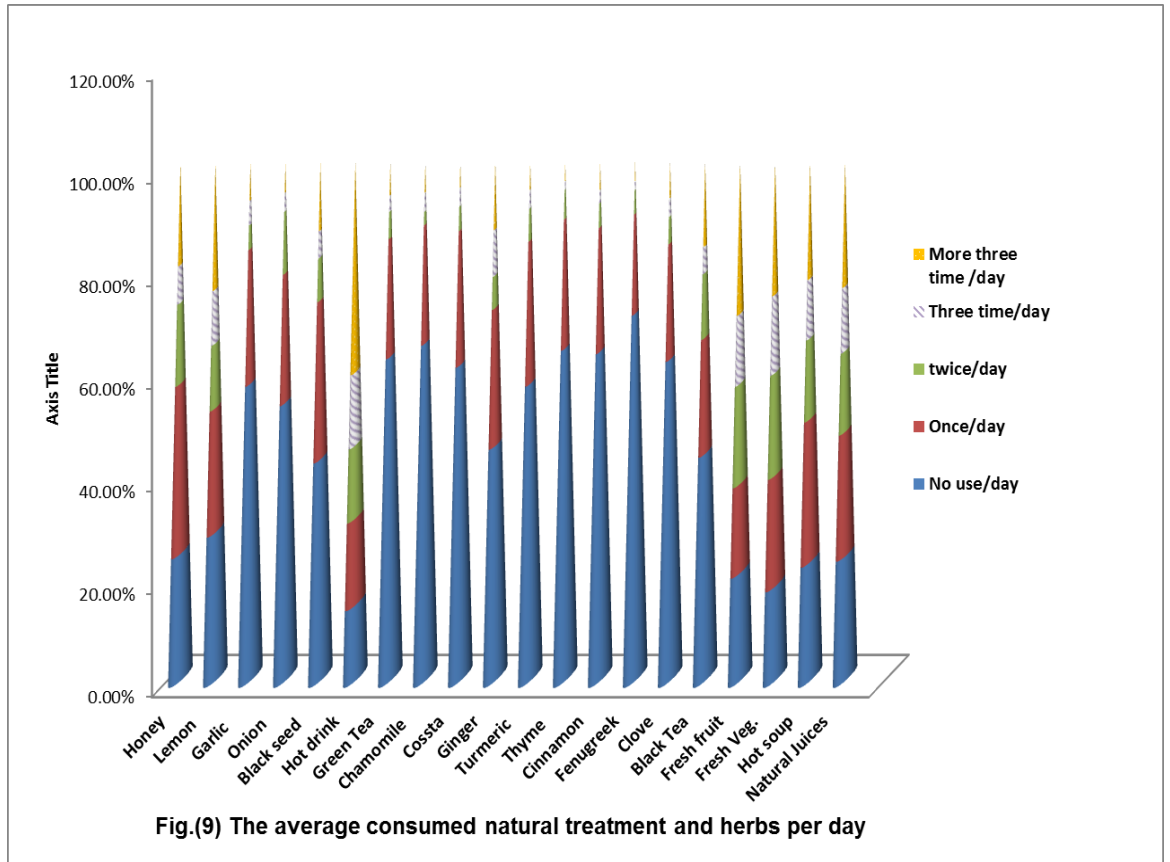


Fig.(9) The average consumed natural treatment and herbs per day

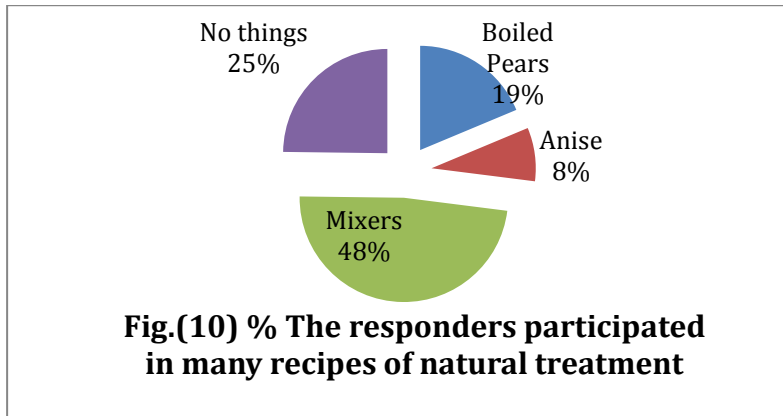


Table (1) Relationship between the time recoveries during COVID 19 and chronic diseases, medical treatment, BMI, and the methods of follow up cases for recovered people

			chronic diseases	Medical treatment during COVID 19	BMI	Follow up Cases
Mean ± SD			2.46 ± 2.28	4.05 ± 1.61	2.92±0.99	3.49±1.273
Spearman's rho	Time-recovery (2.54 ± 0.692)	Correlation Coefficient Sig. (2-tailed)	-.017 .688	-.088* .034	-.065 .121	.065 .118
	Chronic diseases	Correlation Coefficient Sig. (2-tailed)	1.000 --	-.279** .000	.000 .994	-.187** .000
	Medical treatment during COVID 19	Correlation Coefficient Sig. (2-tailed)	-.279** .000	1.000 --	.775** .000	.461** .000
	BMI	Correlation Coefficient Sig. (2-tailed)	.000 .994	.775** .000	1.000 ---	.493** .000
	Follow up Cases	Correlation Coefficient Sig. (2-tailed)	-.187** .000	.461** .000	.493** .000	1.000 --

*. Correlation is significant at the 0.05 level.

** . Correlation is significant at the 0.01 level .

Table (2) Relationship between the time recoveries during COVID 19 and natural plant and herbs used during treatment

Items	Mean	Std. Deviation	N	R ¹	Sig
Honey	2.65	1.433	576	-.020	.639
Lemon	2.78	1.557	576	-.124**	.003
Garlic	1.79	1.192	576	-.102*	.014
Onion	1.83	1.136	576	-.033	.432
Black seeds	2.15	1.368	576	-.082*	.048
Hot drink	3.49	1.508	576	-.022	.591
Green tea	1.68	1.124	576	-.057	.172
Chamomile	1.62	1.094	576	.057	.173
Costus	1.65	1.051	576	.061	.141
Ginger	2.18	1.419	576	-.030	.479
Turmeric	1.72	1.083	576	-.008	.844
Thyme	1.56	.946	576	.005	.901
Cinnamon	1.62	1.055	576	-.033	.434
Fenugreek	1.48	.936	576	.028	.503
Clove	1.71	1.159	576	.082	.051
Black tea	2.28	1.467	576	.116**	.005
Fresh Fruit	3.13	1.515	576	-.076	.067
Fresh Veg.	3.08	1.453	576	-.087*	.037
Hot Soup	2.83	1.476	576	-.078	.061
Juice	2.89	1.507	576	-.109**	.009
Time recovery	2.54	.692	576		

*. Correlation is significant at the 0.05 level (2-tailed).

**.. Correlation is significant at the 0.01 level (2-tailed).

¹R mean Correlation

Table (3) Positive answers to questionnaire that are used the natural nutrients

Time recovery rate	Items	No use/day	Once /day	twice /day	Three time/day	More three time /day	Sig.	
Time recovery 1- 3 days 2 week 2 weeks 3 weeks months	Honey	N	141	189	90	42	114	0.06
		%	24.5	32.8	15.6	7.3	19.8	
	Lemon	N	165	138	72	60	141	0.002**
		%	28.6	24.0	12.5	10.4	24.5	
	Garlic	N	330	150	27	27	42	0.52
		%	57.3	26.0	4.7	4.7	7.3	
	Onion	N	309	144	69	21	33	0.3
		%	53.6	25.0	12.0	3.6	5.7	
	Black seed	N	246	177	48	30	75	0.08
		%	42.7	30.7	8.3	5.2	13.0	
	Hot drink	N	84	96	81	81	234	0.06
		%	14.6	16.7	14.1	14.1	40.6	
	Green Tea	N	360	132	30	18	36	0.006**
		%	62.5	22.9	5.2	3.1	6.3	
	Chamomile	N	375	132	15	21	33	0.02**
		%	65.1	22.9	2.6	3.6	5.7	
	Costus	N	351	150	27	21	27	0.02*
		%	60.9	26.0	4.7	3.6	4.7	
	Ginger	N	261	153	36	51	75	0.5
		%	45.3	26.6	6.3	8.9	13.0	
Turmeric	N	330	159	36	21	30	0.002*	
	%	57.3	27.6	6.3	3.6	5.2		
Thyme	N	369	144	33	9	21	0.004**	
	%	64.1	25.0	5.7	1.6	3.6		
Cinnamon	N	366	138	27	15	30	0.09	
	%	63.5	24.0	4.7	2.6	5.2		
Fenugreek	N	408	111	27	9	21	0.04*	
	%	70.8	19.3	4.7	1.6	3.6		
Clove	N	357	129	30	21	39	0.002**	
	%	62.0	22.4	5.2	3.6	6.8		
Black Tea	N	252	129	72	30	93	0.04*	
	%	43.8	22.4	12.5	5.2	16.1		
Fresh	N	120	99	111	78	168	0.006**	

	fruit	%	20.8	17.2	19.3	13.5	29.2	
	Fresh Veg.	N	105	123	114	87	147	0.003**
		%	18.2	21.4	19.8	15.1	25.5	
	Hot soup	N	132	159	90	66	129	0.43
		%	22.9	27.6	15.6	11.5	22.4	
	Natural Juices	N	138	138	90	72	138	0.04
		%	24.0	24.0	15.6	12.5	24.0	
	Total	N	576					
		%	100					

*. The mean difference is significant at $p < 0.05$.

** The mean difference is significant at the $P < 0.01$.

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